# AUSTRALIAN FUNGI, NEW OR UNRECORDED.
## DECADES VII.-VIII.

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Of the twenty species recorded in this paper, seventeen are new, and belong to thirteen different genera. At least two of these genera are worthy of special mention. *Myriangium*, which was formerly classed among the lichens, is represented by two species, one of which is a very injurious parasite. The asci are produced in the outside tissue of the so-called thallus, and as fresh asci are formed beneath this, the outer layer breaks away as the new tissue is pushed forward. There is still some doubt as to its exact systematic position. The other genus is new, and named *Amphichæta*, on account of its possessing spores with a hair or seta at either end. In *Monochætia*, Sacc., to which it is closely allied, the spore possesses only a single hair as the name denotes.

From New South Wales there are four species, represented by as many genera—*Alternaria*, on Carnation; *Barlæa*, on clayey soil; *Hexagonia*, on dead wood; and *Humaria*, on gritty soil. It may be noted that in the genus Hexagonia, this is the first occasion on which the spores have been described, presumably on account of the freshness of the specimens, and their being collected at the proper season.

The common Horehound, which is spreading so extensively in New South Wales and Victoria, is attacked by a Phyllosticta, which causes spotting of the leaves and withering particularly towards the tips.

### 61. Alternaria longispora, n.sp.

Forming dark olive tufts on withered portions of leaves. Conidiophores olivaceous, erect or ascending, simple, stout, septate, slightly or not at all constricted at septa, straight or bent, 40-70 × 7-8$\mu$. Conidia obclavate, olivaceous to pale fuliginous, transverse septa up to 19-20, deeply constricted, with long pale-coloured septate beak and body of sporidium muriformly divided, 100-160 × 16-25$\mu$.

Sydney, N.S.W.; on Carnation; August, 1903 (R. T. Baker).

The exceedingly long spore of this species is very characteristic, deeply constricted at the septa, and may either be comparatively slender or bulging considerably. *Septoria dianthi* also occurred on the leaves. This species is after the type of *A. solani* (E. & M.), Jones & Grout, in which the spore may be more than twice as long, but the transverse septa are fewer and less constricted, and the longitudinal septa are few or lacking.

## AMPHICHÆTA, n.g.

Acervuli beneath the epidermis, often erumpent, disc- or cushion-shaped, black. Sporules elongated, with two or more transverse septa, at least partially coloured, and with one seta at each end; basidia hyaline, filiform.

The genus *Pestalozzia* was originally divided into the three subgenera, *Eu-Pestalozzia* with sporules partly coloured and two or more apical setæ; *Monochætia* with only one apical seta, and *Pestalozzina* with the sporules entirely hyaline. The two latter are now raised to the rank of genera, and *Monochætia*, Sacc., corresponds to this new genus, only there is no basal seta to the spore. In *Cryptostictis*, Fckl., the spores are similar to those of *Amphichæta*, but they are enclosed in a perithecium.

### 62. AMPHICHÆTA DAVIESIÆ, n.sp.

Pustules black, erumpent, subgregarious, sometimes confluent, on both surfaces of leaves and on stems. Sporules fusoid, 4-septate, hardly constricted at septum, 3 median cells coloured, 2 terminal hyaline, crested with one hair up to 20$\mu$ long, with another usually shorter hair springing obliquely from basal cell near to junction with stalk, 20-26 × 7-8$\mu$; basidia hyaline, filiform.

Box Hill and Ringwood, Vic.; on *Daviesia latifolia*, R.Br.; October, 1903 (C. French, Jr.).

This fungus is very destructive, causing large discoloured patches on the greater portion of the green leaves, and also invading the stem.

### 63. AMPHICHÆTA KENNEDYÆ, n.sp.

Pustules small, black, erumpent, scattered. Sporules fusoid, sometimes slightly curved, 5-6-septate, median cells coloured, two terminal hyaline, may be slightly constricted at median septum, crested with one hair averaging 6-10$\mu$ long, but rarely up to 17$\mu$ long, and another springing obliquely from basal cell, very variable in length, 9-22$\mu$ long, but generally longer than apical seta; basidia hyaline, filiform, 10-16$\mu$ long.

Ringwood and Cheltenham, Vic.; on dry portions of leaves of *Hardenbergia monophylla*, Benth., and *Kennedya prostrata*, R.Br.; September, 1903 (C. French, Jr.).

### 64. ASCOPHYTA FŒNICULINA, n.sp.

Perithecia subgregarious, erumpent then superficial, punctiform, clear olivaceous by transmitted light, globose to lenticular, membranaceous, of parenchymatous texture, with apical pore, 100-150$\mu$ diam. Sporules olivaceous, cylindrical, straight or slightly curved, not or slightly constricted at septum, occasionally a second septum, with guttule in each cell, variable in size but generally 14-17 × 6-6$\frac{1}{2}\mu$.

Armadale, Vic.; on fruits of *Fœniculum vulgare*, Mill; June, 1903.

It differs from *A. ferulæ*, Pal., which occurs on white spots on dead stems, in the smaller perithecia and spores which are not hyaline but greenish.

### 65. ASCOCHYTA VIOLICOLA, n.sp.

Spots whitish or pale yellow, orbicular or oval, determinate, average 3-5 mm. Perithecia scattered or subgregarious, black, punctiform, erumpent, membranaceous, of parenchymatous texture, pale olivaceous by transmitted light, globose, averaging 200$\mu$ diam., with small round apical pore about 20$\mu$ diam. Sporules hyaline, elliptical to sausage-shaped, at length 1-septate, not constricted at septum, 7-8 × $2\frac{1}{2}\mu$, expelled in dilute pink tendrils.

Armadale, near Melbourne, Vic.; on *Viola odorata*; March, 1903.

The size of the spores at once distinguishes this from *A. violæ*, Sacc. & Speg., in which they are more than twice the size, 15-18 × $3\frac{1}{2}$-4$\mu$.

### 66. BARLÆA PERSOONII (Crouan), Sacc.

Syn. *Barlæa violascens* (Cooke), Mass.

Ascophore 6-7 mm. across, gregarious, sessile, fleshy, hemispherical, then expanding, glabrous; margin incurved, entire; disc purplish, externally dark purplish; excipulum parenchymatous, cells rather large, tinged with violet. Asci cylindrical, elongated, base attenuated, apex at first rounded, ultimately truncate, 8-spored. Spores uni-seriate, globose, smooth, 1-guttulate, at first hyaline, ultimately violet, 9-10$\mu$ diam. Paraphyses filiform, about 2$\mu$ thick, often slightly recurved at apex.

Boppy Mount, Cobar District, N.S.W.; on clayey soil among moss; May, 1903 (R. T. Baker).

This is the first record of the species for Australia. It is described as of a dingy violet colour by Massee, and in Cooke's 'Mycographia' (fig. 83), it is shown of a very decided violet, but these specimens were more purplish. However, the colour has changed a little since the specimens were gathered. The collector notes that the colour, when fresh, was violet, but under certain angles of light it appeared somewhat purplish. Whether purple or violet, however, the colour was not dingy.

This species has been variously named, but if we trace the different names according to their chronological order, it will be found that the one used above is according to the recognised system of naming.

1. *Ascobolus persoonii*, Crouan, Flor. Finist. 56 (1867).
2. *Aleura violascens*, Gillet, Champ. 49 (1879).

3. *Peziza violascens*, Cooke, Mycogr. 46 (1879).
4. *Barlæa persoonii*, Saccardo, Syll. viii., p. 116 (1889).
5. *Barlæa violascens*, Massee, Brit. Fung. Flor. iv., 398 (1895).

### 67. CONIOTHYRIUM BURCHARDIÆ, n.sp.

Spots greyish, usually marginal, elongated, with broad dark brown margin. Perithecia scattered, minute, black, punctiform, at first covered, then erumpent, globose, membranaceous, of parenchymatous texture, with apical pore, 100-140$\mu$ diam. Sporules numerous, clear brown, ellipsoid, 8-9 × 4-5$\mu$.

Ringwood, Vic.; on green leaves of *Burchardia umbellata*, R.Br.; October, 1903 (C. French, Jr.).

The perithecia were dark brown by transmitted light owing to the contained spores, but when empty they were olivaceous.

### 68. CONIOTHYRIUM PYCNANTHÆ, n.sp.

Spots rounded or irregular, somewhat indefinite, ruddy, often confluent and forming small or large patches. Perithecia scattered, erumpent, surrounded by ruptured epidermis, depressed-globose, membranaceous, yellowish-brown by transmitted light, with apical pore, 120-150$\mu$ diam. Sporules yellowish-brown, oval to elliptical, or somewhat irregular and often unsymmetrical, with single guttule, 6-8 × $2\frac{1}{2}$-3$\mu$.

Myrniong, Vic.; on phyllodes of *Acacia pycnantha*, Benth., Golden Wattle; July, 1900 (Brittlebank).

Two species of this genus are recorded on branches of *Acacia* in California, but the spores are entirely different.

*C. decipiens*, Cooke & Harkn., has spores 4 × 3$\mu$, and in *C. punctum*, Cooke & Harkn., they are 5$\mu$ in diam.

### 69. GLŒOSPORIUM ACACIÆ, n.sp.

Spots on either surface of leaf, ruddy brown, slightly sunken, but with raised margin. Pustules at first covered, then free and bursting through epidermis, black, often arranged as a ring around central pustule. Sporules hyaline, cloudy, elliptical to cylindrical, acute or rounded at the ends, 10-13 × $2\frac{1}{2}$-3$\mu$; sporophores densely fasciculate, pale olivaceous in mass, septate, simple, 50-60$\mu$ long by 3-4$\mu$ broad, and slightly narrowing towards apex.

Dimboola, Vic.; on *Acacia hakeoides*, A. Cunn.; August, 1896 (Reader).

It differs from *A. sphærelloides*, Sacc., occurring on *Acacia melanoxylon*, in which the sporules are 5-6 $\mu$ broad, twice that of the above.

### 70. GLŒOSPORIUM EUCALYPTI, n.sp.

Spots rounded or irregular, on both surfaces of leaf, brownish, determinate, often spreading inward from apex or margin, and becoming confluent. Pustules gregarious or scattered, numerous, greyish to blackish, erumpent, averaging $\frac{1}{3}$-$\frac{1}{2}$ mm. Sporules hyaline, ellipsoid, non-guttulate, 8-10 × 3-4$\mu$; sporophores fasciculate, simple, septate, of equal thickness throughout, 50-60 × 5-6$\mu$.

Zoological Gardens, Melbourne, Vic.; on *Eucalyptus corynocalyx*, F.v.M.; June, 1903 (Le Souëf).

It differs from *G. ochrostictum*, Sacc., on languid leaves of *E. rostrata*, in the pustules ultimately being blackish and not ochraceous, and the sporules shorter, narrower and non-guttulate. Also from *G. nigricans*, Cooke & Mass., on *E. pauciflora*, Sieb., in which the spots are indistinct and the ovoid sporules are 12 × 7$\mu$.

### 71. HETEROSPORIUM GRAMINIS, n.sp.

Tufts small, distinct, gregarious, dusky olive, on dry parts of leaves and stems. Fertile hyphæ erect, simple, nodulose, rarely septate, slightly flexuous, dark olivaceous, abruptly narrowed at apex, and terminating in minute disc for attachment of conidia, 40-60 × 5-7$\mu$, and when swollen may be 9-10$\mu$ broad; disc 2-2$\frac{1}{2}$$\mu$, sometimes two alongside of each other. Conidia in fragile chains, olivaceous, oblong-ellipsoid, prominently echinulate, continuous to 4-septate, not constricted, 20-30 × 11-14$\mu$.

St. Kilda, Vic.; on *Ammophila arundinacea*, Host., Marram-grass; September, 1903.

It differs from *H. avenæ*, Oud., in which the fertile hyphæ are 3 to 4 times as long, and the conidia are only 1-septate. Also from *H. cercosporoides*, Speg., in which the hyphæ are septate, and the 1-2 septate conidia are pale rose to fuliginous.

### 72. HEXAGONIA BICOLOR, n.sp.

Pileus dimidiate, about 3 cm. across, solitary, woody, yellowish to brownish when young, smoky and cracked when old, the two zones—yellow and black, distinct, smooth. Pores rounded to polygonal, shallow towards margin, rather deep further back, decurrent, cream-coloured, rather large, 2-3 mm. across. Spores hyaline, elliptical, apiculate, 12-16 × 7-8$\mu$.

Restdown, N.S.W.; on dead wood of *Eucalyptus woollsiana;* July, 1903 (R. T. Baker).

The two-coloured pileus is very marked, as well as the large, cream-coloured, polygonal pores. It differs from *H. muelleri*, Berk., also found on *Eucalyptus*, which is thin and rigid, and the pores are only ½ mm. diam. It is rather interesting to note that this seems to be the first time in which the spores of this genus have been recorded. Of the 88 species given in Saccardo's 'Sylloge Fungorum,' in not a single instance have the spores been seen or at least recorded.

### 73. HUMARIA BAKERI, n.sp.

Loosely gregarious, subsessile to distinctly stalked, glabrous, all of one colour, pale fleshy pink, firm and hard; disc globose or elliptic, slightly concave, about 1 mm. across. Asci cylindrical, but tapering slightly towards base, rounded at apex, 8-spored, 85-95 × 7$\mu$; paraphyses numerous, hyaline, septate, often bifurcating at apex. Spores 1-seriate, hyaline, somewhat fusiform, smooth, 13-16 × 3½-5$\mu$.

Wentworth Falls, N.S.W.; on gritty soil; August, 1903 (R. T. Baker).

This is a very characteristic species with its delicate pinkish tint, minute size, and subsessile to shortly stalked ascophore.

It differs from *H. salmonicolor*, Sacc., in the smaller size of the disc and spores, and from *H. novo-zelandica*, Henn., in which the disc is externally tomentose, the asci about twice the length, and the spores larger.

### 74. Leptostroma acaciæ, n.sp.

Perithecia clustered on pale indefinite spots, black, elongated or irregularly subcircular, at first covered by the epidermis, then erumpent, opening by longitudinal fissure, sometimes reaching a length of nearly 1 mm. Sporules hyaline, lanceolate, generally straight, often thicker at one end than the other, 22-30 × 5-6$\mu$.

Dimboola, Vic.; on phyllodes and branches of *Acacia salicina*, Lindl.; July, 1896 (Reader).

The black clusters of perithecia stand out prominently from the pale green of the phyllodes, and the species is a characteristic one.

### 75. Myriangium acaciæ, n.sp.

Stromata in clusters, up to 4 mm. across, tubercular, scattered, superficial, firmly attached to bark by submembranaceous base; each stroma 1-1½ mm. diam., black, disciform, plane or convex above, orbicular or angular from pressure, horny in texture, pseudo-parenchymatous. Ascigerous cells or perithecia numerous, subpolystichous, subglobose, each containing a single ascus. Asci subglobose to obovate, 8-spored, aparaphysate, 40-50 × 32-38 $\mu$. Sporidia conglobate, hyaline, oblong-elliptical, often curved, transversely 7-8 septate and slightly constricted at some of the septa, imperfectly muriform, 30-38 × 11-13$\mu$, occasionally reaching a length of 42$\mu$.

Plenty River, Vic.; on living branches of *Acacia dealbata*, Link; August, 1903 (C. French, Jr.).

This species approaches *M. duriæi*, Mont. & Berk., but the spores are rather larger.

### 76. Myriangium pritzelianum, Henn. (Hedw. xl., 353, 1901.)

Stromata densely gregarious, sometimes scattered, on branches, leaves and flowers, erumpent and becoming superficial, pulvinate, rough to warty, or somewhat furrowed, rather fleshy, black to dark cinnamon, 0·2-0·5 mm. diam., ruddy-brown or deep blood-red by transmitted light, pseudo-parenchymatous. Ascigerous cells or perithecia numerous, subpolystichous. Asci ovoid, obovate or subglobose, at first thickened at apex, 4-8-spored, aparaphysate, 22-35 × 20-28$\mu$. Sporidia conglobate, ellipsoid or subclavate, straight or slightly curved, obtuse at both ends, hyaline or pale yellowish, transversely 3-septate, more or less constricted at septa, imperfectly muriform, 10-18 × 4-6$\mu$.

Kergunyah, Vic.; on *Pomaderris apetala*, Labill.; November, 1902 (Robinson)—Near Mt. Falkiner, Tasm.; September, 1896 (Rodway, 464)—Near Geraldton, W.A.; on *Trymalium wichuræ*, Nees; July, 1901 (Pritzel).

Dr. Hennings kindly forwarded a portion of the original material on which the species was founded, and there is no doubt of the identity of the Victorian and Tasmanian specimens. In these the stromata occur on the young branches, the leaves and the flower-stalks, and in the West Australian specimens they occurred on the calyx-leaves as well. The stromata have their base narrowed and inserted in the matrix, and although the branches are not deformed still it is a very injurious parasite.

The genus *Myriangium*, Mont. & Berk., was formerly classed among the lichens, but the absence of spermogonia and gonidia exclude it. In Hooker's London Journal of Botany (Vol. iv., p. 73, 1845), Berkeley records *M. duriæi* from near Swan River, West Australia, but it was omitted from Cooke's 'Handbook of Australian Fungi,' on account of its lichenoid nature.

### 77. PHYLLOSTICTA MARRUBII, n.sp.

Perithecia minute, black, punctiform, erumpent, prominent, scattered, depressed-globose, golden to olivaceous by transmitted light, membranaceous, of parenchymatous texture, with round apical pore, 120-130$\mu$ diam., on both surfaces of pale brown irregular spots, but mostly on upper. Sporules hyaline, oval, 5½-6 × 2½-3, occasionally reaching a length of 8$\mu$.

Armadale, Vic.; on living leaves of *Marrubium vulgare*, L.; September, 1903.

At first the irregular pale brown spots are isolated, but ultimately they coalesce and form large withered patches, often towards the tip of the leaf. The spots usually occur on leaves towards the base of the stem and not freely exposed to the light. *Phoma labiatarum*, Cooke, occurs on dead stems.

### 78. SEPTORIA HYPOCHŒRIDIS (Allesch.), McAlp.

Syn. *Rhabdospora hypochœridis*, Allescher (Hedw., xxxv., 163, 1897).

Spots on both surfaces of leaf, dirty grey to brownish, somewhat round, with purplish margin, usually about 5 mm. diam. Perithecia very minute, black, scattered or gregarious, erumpent, olivaceous by transmitted light, depressed-globose to lenticular, membranaceous, of parenchymatous texture, with apical pore, 70-100 μ diam. Sporules hyaline, filiform, very slender, straight, curved or slightly flexuous, guttulate, 22-32μ long.

Armadale, near Melbourne, Vic.; on *Hypochœris radicata*, L.; October, 1903.

This species was associated with *Puccinia hypochœridis*, Oud., which occurred on the same spots. It differs from *S. mougeoti*, Sacc. & Roum., occurring on *Hieracium*, in the nature of the spots, and in the shorter spores.

It was first determined on the dead stems of this cosmopolitan plant in Germany, and assigned to the genus *Rhabdospora* by Allescher, but since it occurs on the leaves as well and forms spots, it is a true *Septoria*.

### 79. SPHÆRELLA RUBICOLA, n.sp.

Perithecia on silvery-grey patches, minute, black, depressed-globose, scarcely erumpent, scattered, dark brown by transmitted light, membranaceous, with relatively large, round, papillate mouth, 140-190μ diam. Asci obclavate, shortly stalked, rounded at apex, without paraphyses, 8-spored, 63-70 × 18-21μ. Sporidia generally biseriate, cylindric-oblong, hyaline, with finely granular contents, 1-septate, not constricted at septum, rounded at both ends, gradually tapering towards lower end, two cells about equal in length, upper cell broader, 21 × 7μ.

Arthur's Creek, Vic.; on still green and brown branches of *Rubus parvifolius*, L.; August, 1902.

The size of the sporidia, which is very constant, at once distinguishes it from *S. fruticum*, Starb., and *S. rubina*, Peck., occurring on the stems of the Raspberry (*Rubus idæus*). This fungus did not occur on the leaves, which, however, were affected with *Phragmidium subcorticium* (Schrank), Winter.

### 80. TOLYPOSPORIUM LEPIDOBOLI, n.sp.

Produced within the ovaries, black, powdery. Spore-balls composed of very many spores closely united into irregularly shaped solid masses, about 80 to 90$\mu$ lengthwise. Spores rounded or polygonal, 12-14 $\mu$ diam., or 12-16 × 10-11$\mu$, epispore rough.

Dimboola, Vic.; in ovaries of *Lepidobolus drapetocoleus*, F.v.M. (Reader).